

Page 1 of 1

All amounts are calculated in domestic currency.

Purchase Order ID/ Curr Type	Line Nbr/ Insp Req	Project ID	Reference/ Description/ Cert Std	PO U/M / Stock U/M	Required Date	Recv Date/ Recv Emp	Recv Qty (PO U/M)	Cost Per Unit/ Recv Value	Inspected Qty/ Rejected Qty (PO U/M)	MRB Qty/ MRB Reject Qty	Book Amt
Vendor ID/Vendor Name VU-TW/M001 TW Metals											
PO37490	1		M304TR0.500W.035W	f	8/29/2017	8/29/2017	40.0000		0.0000	0	\$0.00
USD	No		304 RD Tube .500 x .035W	f	40.0000	PLOU01			0.0000	0	
			m138403								
	2		M304TR0.750W.049W	f	8/29/2017	8/29/2017	60.0000		0.0000	0	\$0.00
	No		304 RD Tube .750 x .049W	f	60.0000	PLOU01			0.0000	0	
			m138403								
	3		M304TR0.875W.065W	f	8/29/2017	8/29/2017	20.0000		0.0000	0	\$0.00
	No		304 round tube .875 x .065W	f	20.0000	PLOU01			0.0000	0	
			m138403								
	4		M6061T6T0.750W.12 f	f	8/29/2017	8/29/2017	24.0000		0.0000	0	\$0.00
	No		5 6061-T6 RD Tube .750 x .125W	f	20.0000	PLOU01			0.0000	0	
			m138403								
	5		71401-45		8/29/2017	8/29/2017	1.0000		0.0000	0	\$0.00
	No		PROCUREMENT QUALITY CLAUSES		1.0000	PLOU01			0.0000	0	
			m138403								
Total Received Quantity: Total Qty to Inspect (PO U/M): Total Reject Quantity: Total Receipt Value: Total Balance Due Quantity:											145.0000 0.0000 0.0000 \$0.00 0.0000



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 80876281

FROM: CHIC

PAGE 1

CUST NUMBER: 1203820 NET WGT: 47.123 REQ.DATE: 08/29/17 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD DART AEROSPACE LTD
1270 ABERDEEN ST 1270 ABERDEEN ST
HAWKESBURY ON HAWKESBURY ON
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 08/23/17
TERMS: NET 30 DAYS VIA: COMMON CARRIER
F.O.B.: SHIPPING POINT FREIGHT: PREPAID
CUST ORD NO.: P037490 RELEASE NO.:
RECEIVING PHONE:

LINE ITEM DESCRIPTION WIDTH LENGTH
0001 36449 SMLS CD 304/L A269 1/2 OD X .035 WA 20' ML

CLN# ORD QTY INVOICE QTY SHIPPED QTY WT
40.000 FT 40.000 FT 40.000 FT 6.950

PCS
2

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00
PO:49363331 HT:YX1108592 PC: 2 CUSTOMER QTY: UOM
MLT:CHINA MFG:CHINA SLB/CL:-

0002 36860 SMLS CD 304/L A269 3/4 OD X .049 WA 20' CL

CLN# ORD QTY INVOICE QTY SHIPPED QTY WT
60.000 FT 60.000 FT 60.000 FT 22.003

PCS
3

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00
PO:49362750 HT:YX1606643 PC: 3 CUSTOMER QTY: UOM
MLT:CHINA MFG:CHINA SLB/CL:-

0003 36969 SMLS CD 304/L A269 7/8 X .065 WA 20' CL

CLN# ORD QTY INVOICE QTY SHIPPED QTY WT
20.000 FT 20.000 FT 20.000 FT 11.244

PCS
1

** 1 TEST REPORTS REQUIRED **

** 1 CERTS REQUIRED **

ECCN: 2B999.g Export License: NLR Expiration Date: 0/00/00
PO:49361379 HT:161121W0 PC: 1 CUSTOMER QTY: UOM
MLT:CHINA MFG:CHINA SLB/CL:-

2078'30"

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
REVIEW.
<http://www.twmetals.com/invoice-terms.html>



O'Neal High-Performance Metals Group



Packing Slip

ORDER NO.: 80876281 FROM: CHIC PAGE 2

CUST NUMBER: 1203820 NET WGT: 47.123 REQ.DATE: 08/29/17 CONFIRMED
 SOLD TO: SHIP TO:
 DART AEROSPACE LTD DART AEROSPACE LTD
 1270 ABERDEEN ST 1270 ABERDEEN ST
 HAWKSBURY ON HAWKSBURY ON
 CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 08/23/17
 TERMS: NET 30 DAYS VIA: COMMON CARRIER
 F.O.B.: SHIPPING POINT FREIGHT: PREPAID
 CUST ORD NO.: P037490 RELEASE NO.:
 RECEIVING PHONE:

LINE	ITEM DESCRIPTION	WIDTH	LENGTH
0004	42891 D6061-T6 3/4 OD X .125 WA		12 FT ML

CLN#	ORD QTY	INVOICE QTY	SHIPPED QTY	WT
	24.000 FT	24.000 FT	24.000 FT	6.926

PCS
2

** 1 TEST REPORTS REQUIRED **
 ** 1 CERTS REQUIRED ** **DAS**
 ECCN: EAR99 Export License: NLR Expiration Date: 0/00/00
 PO:49372373 HT:F00245200001 PC: 2 CUSTOMER QTY: UOM
 MLT:UNITED STATES MFG:UNITED STATES SLB/CL:223652

BROKERS KUEHNE AND NAGEL LTD

AREA	TYPE OF PKG	PKGS	GRS WEIGHT	WIDTH	LENGTH	HGHT
YRC	REDDICRATE	1.000	97.000		20.5000	
		1.000	97.000			

BY: LM
 RT 000-

UNLOAD TYPE: NONE SPECIFIED

DATE SHIPPED _____

DATE FILLED _____

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
 PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
 REVIEW.
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O'Neal High-Performance Metals Group



Packing
Slip

ORDER NO.: 80876281

FROM: CHIC

PAGE 3

CUST NUMBER: 1203820 NET WGT: 47.123 REQ.DATE: 08/29/17 CONFIRMED
SOLD TO: SHIP TO:
DART AEROSPACE LTD DART AEROSPACE LTD
1270 ABERDEEN ST 1270 ABERDEEN ST
HAWKESBURY ON HAWKESBURY ON
CANADA CN K6A 1K7 ONTARIO CANADA CN K6A 1K7

SALESPERSON: DONNA SMALLEY SHIP BY: 08/23/17
TERMS: NET 30 DAYS 235 TUBEWAY
F.O.B.: SHIPPING POINT CAROL STREAM IL 60188
CUST ORD NO.: P037490
VIA: COMMON CARRIER
FREIGHT: PREPAID
RELEASE NO.:
RECEIVING PHONE:

"TW Metals MSDS data is available on our web site at www.twmetals.com. MSDS data can be found under the Technical Resources Tab, Product Statistics & Data and the TW Metals MSDS's heading. If you do not have web site access you may telephone 610-458-1300 and we will mail or fax a copy of our current MSDS data to your location."

"CERTIFICATE OF CONFORMANCE"

"TW Metals certifies that the material supplied on this purchase order and contained in the heat/lot number referenced above has been manufactured, inspected, and tested in accordance with the material specification. These records are on file at TW Metals. Packaging material for shipments to Europe and China consists of manufactured wood products and complies with the European emergency measures for coniferous non-manufactured wood packing material"

Authorized Test Report Clerk Luzaida Matas Date: 8/23/17

These commodities have been exported from the United States in accordance with the U.S. export control laws, export administrations regulations. Diversion contrary to U.S. law prohibited.

THANK YOU FOR THIS ORDER

TERMS AND CONDITIONS APPLICABLE TO THE SALE OF THESE
PRODUCTS ARE SET FORTH ON OUR WEBSITE FOR YOUR CAREFUL
REVIEW.
<http://www.twmetals.com/invoice-terms.html>

MILL TEST REPORT

Purchaser.: TW METALS-Carol Stream				Certificate No.: 2017-6-3					
Contract No.: TWM P.O.No.: M49363331				Date of Issue.: 2017.6.12					
Commodity: Stainless Steel Seamless Tubes		Specifications: ASTM A213-15c/ASME SA213-15/ASTM A269-15a EAW							
Process: Cold Drawn				Delivery Condition: OD Polished to 240 Grit					
Steel Grade	Heat Number	Lot Number	Dimensions		Quantity				
					Pieces	Feet			
TP304/TP304L	YX1108-592	3-93	1/2"x0.035"x20'		500	10,000			
Chemical Composition by Weight (%)									
Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.025	0.64	0.032	0.002	0.36	18.50	8.05	-	-
Product Analysis	0.024	0.63	0.035	0.002	0.35	18.79	8.04	-	-
Mechanical Properties									
Test Item	Elongation (% in 2")		Tensile Strength (PSI) Rm			Yield Strength (PSI) Rp / 0.2%			
Requirements	≥35		≥75,000			≥30,000			
Test Results	61/62		99,000/100,000			44,000/45,000			
Test Item	Reduction of Area Z (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test		
Requirements	-	HRB≤80	-	22%	e=0.09	-	-		
Test Results	-	77/79	-	Passed	Passed	-	OK		
Test Item	Eddy Current Test	Air Underwater Pressure Test	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection				
Requirements	ASTM E 426	-	-	ASTM A262 E	End Cut	Appearance			
Test Results	Passed	-	-	OK	OK	OK			

ISO 9001:2008 Certified by CAS 117 16 QU 0053-06 ROS

PED Certified by SZUTEST 2195-PED-1526002

Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-14
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

CANNOT CERTIFY COMPLIANCE
FAR BAA / DFARS BAA / FAR TAA

By:



James Shi

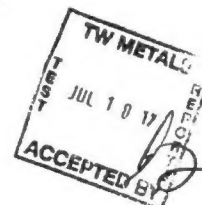
James Shi / Manager

Quality Control Department

We hereby certify that this report is true and correct.

Jiangsu Pufa Stainless Steel Tube Co., Ltd.

No. 99, Xuean Middle Road, Dongchen Town, Rugao City, Jiangsu Province, P.R.China



MILL TEST REPORT

Purchaser.: TW METALS-Carol Stream				Certificate No.: 2017-1-57					
Contract No.: TWMP.O.No.: M49362750				Date of Issue.: 2017.1.11					
Commodity: Stainless Steel Seamless Tubes				Specifications: ASTM A213-15c/ASME SA213-15/ASTM A269-15a EAW					
Process: Cold Drawn				Delivery Condition: OD Polished to 240 Grit					
Steel Grade	Heat Number	Lot Number	Dimensions				Quantity		
TP304/TP304L	YX1606-643	12-14	3/4"x0.049"x20'				Pieces	Feet	
							300	6,000	
Chemical Composition by Weight (%)									
Element	C	Mn	P	S	Si	Cr	Ni	Mo	Co
Requirements	≤0.035	≤2.00	≤0.045	≤0.030	≤1.00	18.00-20.00	8.00-12.00	-	-
Ladle Analysis	0.019	1.22	0.034	0.002	0.31	18.23	8.09	-	-
Product Analysis	0.021	1.26	0.030	0.003	0.26	18.53	8.26	-	-
Mechanical Properties									
Test Item	Elongation (% in 2")		Tensile Strength (PSI) Rm			Yield Strength (PSI) Rp / 0.2%			
Requirements	≥35		≥75,000			≥30,000			
Test Results	63/64		97,000/98,000			41,000/42,000			
Test Item	Reduction of Area Z (%)	Hardness	Cold Bend Test	Flaring Test	Flattening Test	Flange Test	P.M.I. Test		
Requirements	-	HRB≤80	-	22%	e=0.09	-	-		
Test Results	-	76/78	-	Passed	Passed	-	OK		
Test Item	Eddy Current Test	Air Underwater Pressure Test	Ultrasonic Test	Intergranular Corrosion Test	Macroscopic Inspection				
Requirements	ASTM E 426	-	-	ASTM A262 E	End Cut	Appearance			
Test Results	Passed	-	-	OK	OK	OK			

ISO 9001:2008 Certified by CAS 117 16 QU 0053-06 ROS

PED Certified by SZUTEST 2195-PED-1526002

Additional Remarks:

- (1) All tubes annealed to above 1900 Deg F and water quenched below 800 Deg F in 3 minutes
- (2) All tubes tested per ASTM A1016-14
- (3) Materials is NACE MR0103-2007 compliant (per Section 2.5)
- (4) Materials is NACE MR0175/ISO 15156-2003 compliant (per Section 4.2.1)
- (5) In Compliance with EN 10204-3.1
- (6) In Compliance with RoHS Stipulation
- (7) No weld repair performed
- (8) Free from mercury contamination
- (9) Free from radioactive contamination
- (10) Billets melt and pipes/tubes manufactured in China
- (11) All tubes 100% PMI tested
- (12) All tubes 100% Eddy Current tested

CANNOT CERTIFY COMPLIANCE
FAR BAA / DFARS BAA / FAR TAA



By:

James Shi

James Shi / Manager

Quality Control Department

We hereby certify that this report is true and correct.

Jiangsu Pufa Stainless Steel Tube Co., Ltd.

No. 99, Xuean Middle Road, Dongchen Town, Rugao City, Jiangsu Province, P.R.China

X/G

MILSTEEL

JIAXING MT STAINLESS STEEL CO., LTD

MILL TEST CERTIFICATE



Precisely Right.

EN10204 3.1 CERTIFICATE

ISO 9001: 2008 TUV SUD CERT REGISTRATION No.: 01 100 095954

PED/97/23/CE EURO CERT CERTIFICATE NO: CN.CE.1110S1-02/14

CERTIFICATE NO.: 17MTC-040401

SALES CONTRACT NO.: M 49361379

COMMODITY: STAINLESS-STEEL SEAMLESS PIPE

SPECIFICATION: ASTM A213-15c ASTM A269-15a, ASME SA213-15 AVG WALL

PURCHASER: KASUGAI CO., LTD.

ORDER: M 49361379

DATE OF REPORT: 2017-4-4

Steel Grade	Heat No.	DAS	Dimensions			Quantity		Process	Delivery Condition	Macroscopic Inspection	
			O.D. (INCH)	W.T. (INCH)	Length (FT)	FT	Piece			End Cut	Appearance
TP304/304L	161121W0	5	7/8	0.065	20	980	49	Cold-Drawn	Annealed & Pickled & 320 Grit min	Passed	Passed

Chemical Composition (W.T. %)

Element	C	Si	Mn	P	S	Cr	Ni	Mo	Ti	-	-	-
Requirements	≤0.035	≤1.00	≤2.00	≤0.045	≤0.030	18.0-20.0	8.0-12.0	-	-	-	-	-
Ladle Analysis	0.02	0.37	1.33	0.035	0.001	18.25	8.04	-	-	-	-	-

Mechanical Properties

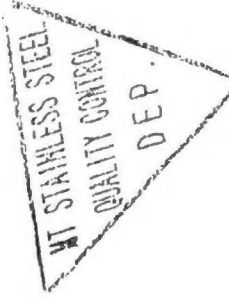
Test Item	Y.S. (MPa)		T.S. (MPa)	EL. (%)		Reduction of Area Z. (%)	Hardness HRB	Cold Bend Test	Flaring Test	Flattening Test	P.M.I. TEST
	Rm	Rp0.2		In2in	In2in						
Requirements	≥170	≥170	≥485	≥35	≥35	-	≤80	-	-	e=0.09	-
Test Results	280	280	585	62	62	-	77	Passed	Passed	Passed	Passed



Non Destructive Tests

Test Item	Eddy Current Test	
	ASTM E 426	
	Passed	

Remarks:

- ASTM A213-15c ASTM A269-15a, ASME SA213-15 AVG WALL
- PIPES TESTED PER ASTM A1016
- SOLUTION HEAT TREATMENT: 1050°C X 1.5m/min
- NO WELD REPAIR WAS PERFORMED.
- PMI TESTING DONE ON EACH PIPE - SATISFACTORY
- IN COMPLIANCE WITH NACE MR0175/ISO 15156-2015
- FREE FROM MERCURY CONTAMINATION
- MATERIAL IS FREE FROM RADIOACTIVITY
- VISUAL CHECK IS SATISFACTORY
- COUNTRY OF ORIGIN: CHINA
- COUNTRY OF MELT: CHINA



1. WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND THE TEST RESULTS ARE IN COMPLIANCE WITH THE TERMS OF THE PURCHASE ORDER OR CONTRACT		Prepared by: 	Approved by: 
2. THE CERTIFICATE SHALL NOT BE REPRODUCED, EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF THE COMPANY.		TW METALS T E S T MAY 25 17 REPORT 2	

KAISER ALUMINUM FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CUSTOMER PO NUMBER: M49372373-1		CUSTOMER PART NUMBER: 42891		PRODUCT DESCRIPTION: Drawn Seamless Tube/Pipe	
KAISER ORDER NUMBER: 223652	LINE ITEM: 001	SHIP DATE: 07/18/2017	KAISER LOT NUMBER: F00245200	ALLOY: 6061	TEMPER: T6
WEIGHT SHIPPED: 1334.000 LB	QUANTITY: 384.000 PCS	B/L NUMBER: 226090	DIAM/DAF/THKNS: 	WIDTH: 	LENGTH: 12.000 FT
SHIP TO: TW METALS INC 235 WEST TUBEWAY DRIVE CAROL STREAM, IL 60188 USA			SOLD TO: TW METALS INC 760 CONSTITUTION DRIVE SUITE 204 EXTON, PA 19341 USA		

Actual Physical Properties

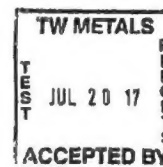
REFERENCE	DASH#	SAMPLE#	UTS (KSI)	YTS (KSI)	ELONG%	HARDNESS	CON%IACS	BEND
F00245200	0001	1	48.6	43.0	17.0	N/A	N/A	N/A
F00245200	0002	1	48.7	42.8	20.0	N/A	N/A	N/A

Chemical Composition (wt%), Aluminum Remainder

LIMITS	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Bi	Zr	Ea	Tot
Maximum	0.80	0.70	0.40	0.15	1.20	0.35	0.25	0.15	NA	NA	NA	0.05	0.15
Minimum	0.40	0.00	0.15	0.00	0.80	0.04	0.00	0.00	NA	NA	NA	0.00	0.00
D20408	.59	.19	.21	.06	1.01	.06	.01	.01	.00	.00	.00	.01	.02

Applicable Requirements:

Description: OD: 0.7500"; Wall: 0.1250"; Round @
AMS4082P AMS-WW-T-700/6C ASTM B210-12 WW-T-700/6F
WE TAKE EXCEPTION TO PARA. 5.2.1., Per AMS4082P, WAS NOT OILED.
This Product Complies to FAR BAA, DFARS BAA, FAR TAA
COMPLIES TO DIN EN 10204 JAN 2005
No Weld Repair. Mercury Free.



Miscellaneous Notes

MANUFACTURED IN USA MELTED IN USA
MATERIAL COMPLIES WITH FAR BAA (FAR 52.225-1, BUY AMERICAN ACT- SUPPLIES), DFARS BAA
(DFARS 252.225-7001 BUY AMERICAN ACT & BAL OF PAYMENTS PROG), AND FAR TAA (FAR 52.225-5
TRADE AGREEMENTS).

Plant Serial: 00025588
Kaiser Order Number: 223652
Line Item: 001

AK

KAISER
ALUMINUM
FABRICATED PRODUCTS

Best in Class

CERTIFIED TEST REPORT

<http://Online.KaiserAluminum.com>

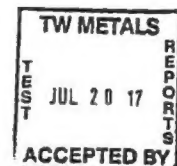
KAISER ALUMINUM
FABRICATED PRODUCTS, LLC
6573 W. WILLIS ROAD
CHANDLER, AZ 85226

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC ('Kaiser') hereby certifies that metal shipped under this order has been inspected and tested and found in conformance with the applicable specifications forming a part of the description set forth in Kaiser's sales acknowledgement form. Any warranty is limited to that shown on Kaiser's general terms & conditions of sale. Test reports are on file subject to examination.

Hans Kattentidt, Quality Manager

[Signature]



Plant Serial: 00025588
Kaiser Order Number: 223652
Line Item: 001

AK

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M304TRD.500W.035

PO / BATCH NO.: 37490/138403

DATE: 17/08/30

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 40'
 QUANTITY INSPECTED: 40'
 QUANTITY REJECTED: _____

THICKNESS ORDERED: .500
 THICKNESS RECEIVED: .500
 SHEET SIZE ORDERED: _____
 SHEET SIZE RECEIVED: _____

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	ASTM A213
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	HEAT# 4X1108592
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	M138403
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL SIZE OF TEST SAMPLE HARDNESS / DUROMETER READING	HRC	HRB	DUR A	DUR D	

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>[Signature]</u>	SIGNED OFF BY: _____		
DATE: <u>17/08/30</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING
 SPECIFICATION: ASTM A213 OR ASME SA213 OR ASTM A269

WALL THICKNESS TOLERANCE PER ASTM A269 AS FOLLOWS:

OD (IN)	PERMISSIBLE	PERMISSIBLE
UP TO 1/2	OD TOL. (IN)	WALL TOL.
1/2 TO 1 1/2, EXCL.	±0.005	±15%
1 1/2 TO 3 1/2, EXCL.	±0.010	±10%
3 1/2 TO 5 1/2, EXCL.	±0.015	±10%
5 1/2 TO 8, EXCL.	±0.030	±10%

PART NUMBER:

M304TR/D.DDD/W.TTT
 OD | WALL

WHERE "D.DDD" = OUTSIDE DIAMETER IN INCHES
 AND "T.TTT" = WALL THICKNESS IN INCHES
 EG: 0.375" OD X 0.065" WALL TUBING = M304TR0.375W.065

500X.035W

RELEASED
 08/10/20

B	REFORMAT DWG. ADD SPECS (ZIN DB-1).	CP	08-10-20
A	NEW ISSUE	DS	01-06-08
REV	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG APPR.			
APPROVED			
DE APPR			
DATE	08.10.20		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO M304TR TITLE 304/316 ROUND TUBING REV B SHEET 1 OF 1 SCALE NTS COPYRIGHT © 2001 BY DART AEROSPACE LTD ALL RIGHTS RESERVED. NO PART OF THIS PUBLICATION MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 1304TRO, 750W.049
 DATE: AUG 31 2017

PO / BATCH NO.: PO37490/M138403

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 60'
 QUANTITY INSPECTED: 60'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: W.049
 THICKNESS RECEIVED: W.046
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	Y (N)	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	Y (N)	
CORRECT MATERIAL PER M-DRAWING	Y (N)	ASTM A213
CORRECT THICKNESS	Y (N)	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	Y (N)	147 # YX1006643
CORRECT MATERIAL IDENTIFICATION	Y (N)	
CORRECT M# ON THE MATERIAL	Y (N)	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION	ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS</u> DATE: <u>AUG 31 2017</u>	SIGNED OFF BY: _____ DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING

SPECIFICATION: ASTM A213 OR ASME SA213 OR ASTM A269

WALL THICKNESS TOLERANCE PER ASTM A269 AS FOLLOWS:

DAS	OD (IN)	PERMISSIBLE OD TOL (IN)	PERMISSIBLE WALL TOL
5	UP TO 1 1/2	±0.005	±15%
9-89	1 1/2 TO 1 3/4, EXCL.	±0.005	±10%
	1 3/4 TO 2, EXCL.	±0.010	±10%
	2 TO 2 1/2, EXCL.	±0.015	±10%
	2 1/2 TO 3, EXCL.	±0.020	±10%

PART NUMBER:

M304TR0.DDD|W|.TTT

WHERE "D.DDD" = OUTSIDE DIAMETER IN INCHES
AND ".TTT" = WALL THICKNESS IN INCHES

EG. 0.375" OD X 0.065" WALL TUBING = M304TR0.375W.065

RELEASED
R 08/08/23 MJD

B	REFORMAT DWG. ADD SPECS (ZN D8-1), REF PAR 08-020A	CP	08 10 20
A	NEW ISSUE	DS	01 06 08
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG APPR.			
APPROVED			
DE APPR.			
DATE	08.10.20		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
REV. B			
DRAWING NO. M304TR			
SHEET 1 OF 1			
TITLE			
304/316 ROUND TUBING			
SCALE			
NTS			
COMPANY: DART AEROSPACE LTD CONFIDENTIALITY: ANY INFORMATION CONTAINED HEREIN IS UNCLASSIFIED NOT TO BE USED FOR ANY PURPOSE, EXCEPT FOR COMMERCE, WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD			

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: 13047RCSSW 065
 DATE: AUG 31 2017

PO / BATCH NO.: PO37490/1138403

MATERIAL CERT REC'D: yes
 QUANTITY RECEIVED: 20'
 QUANTITY INSPECTED: 20'
 QUANTITY REJECTED: 0

THICKNESS ORDERED: w.065
 THICKNESS RECEIVED: w.068
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="radio"/> N <input type="radio"/>	
CORRECT FINISH	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORROSION	Y <input type="radio"/> N <input checked="" type="radio"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="radio"/> Y <input type="radio"/> N	45mm A213
CORRECT THICKNESS	<input checked="" type="radio"/> Y <input type="radio"/> N	
PHOTO REQUIRED	Y <input type="radio"/> N <input checked="" type="radio"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="radio"/> Y <input type="radio"/> N	4+ #161121 w.o
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="radio"/> Y <input type="radio"/> N	
CORRECT M# ON THE MATERIAL	<input checked="" type="radio"/> Y <input type="radio"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="radio"/> N <input checked="" type="radio"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="radio"/> N <input checked="" type="radio"/>	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)
INSPECTED BY: <u>DAS 5</u> DATE: <u>9-89 AUG 31 2017</u>	SIGNED OFF BY: _____ DATE: _____	

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: AISI 304/316 SS SEAMLESS ROUND TUBING

SPECIFICATION: **ASTM A213 OR ASME SA213 OR ASTM A269**

WALL THICKNESS TOLERANCE PER ASTM A269 AS FOLLOWS:

	PERMISSIBLE	PERMISSIBLE
OD (IN)	OD TOL. (IN)	WALL TOL.
UP TO 1/2	±0.005	±15%
1/2 TO 1 1/4, EXCL.	±0.005	±10%
1 1/4 TO 3 1/2, EXCL.	±0.010	±10%
3 1/2 TO 5 1/2, EXCL.	±0.015	±10%
5 1/2 TO 8, EXCL.	±0.030	±10%

PART NUMBER:

M304TRD.DDD|W|.TTT
OD WALL

WHERE "D.DDD" = OUTSIDE DIAMETER IN INCHES
AND ".TTT" = WALL THICKNESS IN INCHES

EG. 0.375" OD X 0.065" WALL TUBING = M304TR0.375W.065

RELEASED
R 08/08/23 MJD

B	REFORMAT DWG. ADD SPECS (ZN D8-1), REF PAR 06-020A	CP	08.10.20
A	NEW ISSUE	DS	01.06.08
REV.	DESCRIPTION	BY	DATE
DESIGN			
DRAWN			
CHECKED			
MFG. APPR.			
APPROVED			
DE APPR.			
DATE	08.10.20		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		REV. B	
DRAWING NO. M304TR		SHEET 1 OF 1	
TITLE 304/316 ROUND TUBING		SCALE NTS	
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MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M6061T6TC.750W.125

PO / BATCH NO.: PO37490/M138403

DATE: AUG 31 2017

MATERIAL CERT REC'D: yes

THICKNESS ORDERED: W.125

QUANTITY RECEIVED: 24'

THICKNESS RECEIVED: W.125

QUANTITY INSPECTED: 24'

SHEET SIZE ORDERED: _____

QUANTITY REJECTED: 0

SHEET SIZE RECEIVED: _____

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N	
CORRECT FINISH	Y <input checked="" type="checkbox"/> N	
CORROSION	Y <input checked="" type="checkbox"/> N	
CORRECT GRAIN DIRECTION	Y <input checked="" type="checkbox"/> N	
CORRECT MATERIAL PER M-DRAWING	Y <input checked="" type="checkbox"/> N	Astm B210
CORRECT THICKNESS	Y <input checked="" type="checkbox"/> N	
PHOTO REQUIRED	Y <input checked="" type="checkbox"/> N	
CORRECT REF # TO LINK CERT	Y <input checked="" type="checkbox"/> N	144 # FCC245200
CORRECT MATERIAL IDENTIFICATION	Y <input checked="" type="checkbox"/> N	
CORRECT M# ON THE MATERIAL	Y <input checked="" type="checkbox"/> N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input checked="" type="checkbox"/> N	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input checked="" type="checkbox"/> N	

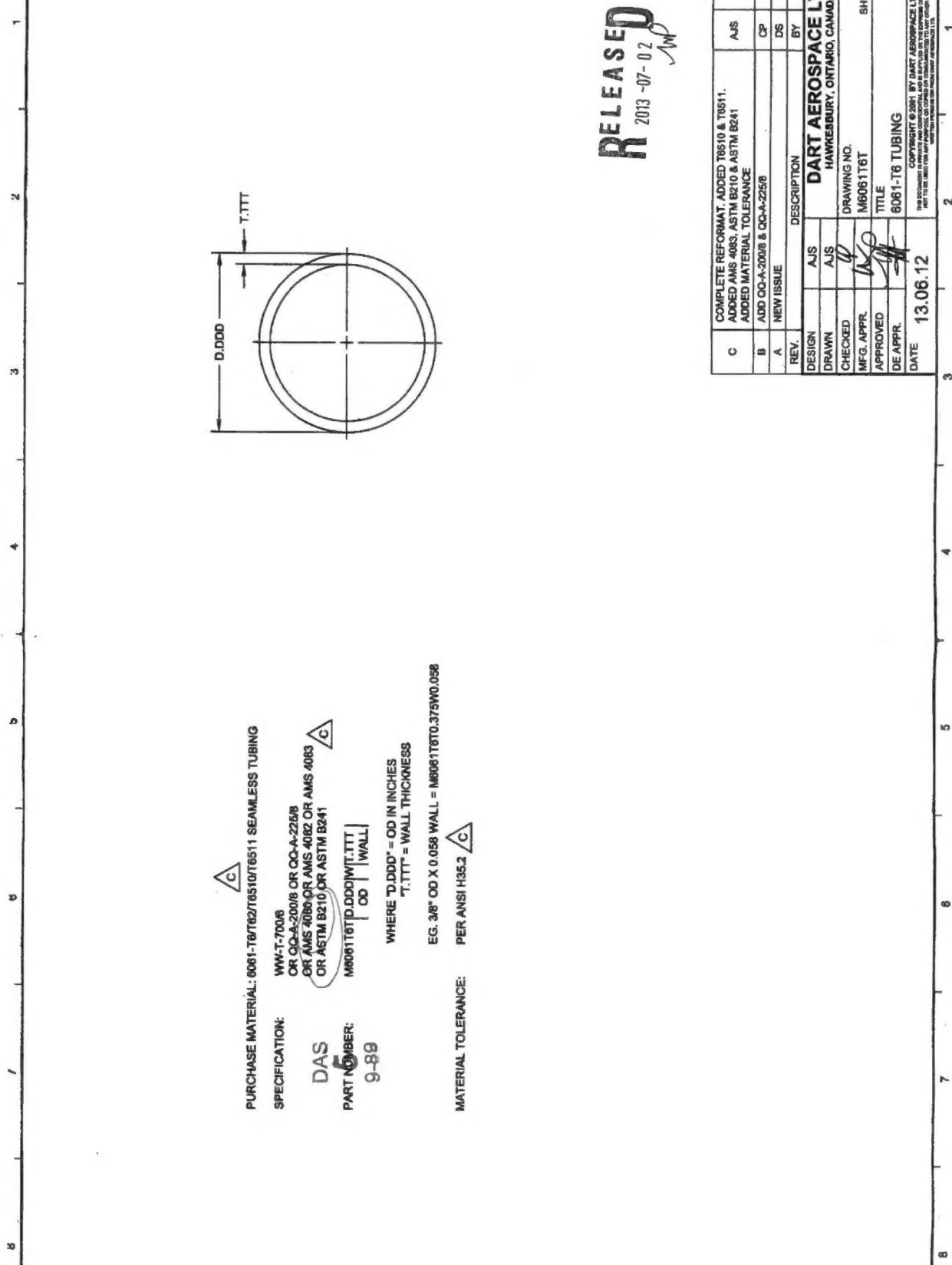
CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.
RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION		ENGINEERING SIGNOFF (If required)	
INSPECTED BY: <u>AS</u> <u>5</u> 9-89	SIGNED OFF BY: _____		
DATE: <u>AUG 31 2017</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in



PURCHASE MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING

SPECIFICATION: $\triangle C$
WW-T-7006
OR QQ-A-200/8 OR QQ-A-225/8
OR AMS 4080 OR AMS 4082 OR AMS 4083
OR ASTM B210 OR ASTM B241 $\triangle C$

DAS
PART NUMBER: $\triangle C$
9-89

WHERE "D.DDD" = OD IN INCHES
"T.TTT" = WALL THICKNESS
EG. 3/8" OD X 0.058 WALL = M6061T6T0.375W0.058

MATERIAL TOLERANCE: $\triangle C$
PER ANSI H35.2 $\triangle C$

RELEASED
R 2013-07-02

C	COMPLETE REFORMAT, ADDED T6510 & T6511. ADDED AMS 4083, ASTM B210 & ASTM B241 ADDED MATERIAL TOLERANCE	AJS	13.06.12
B	ADD QQ-A-200/8 & QQ-A-225/8	CP	04.01.23
A	NEW ISSUE	DS	01.06.21
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS		
DRAWN	AJS		
CHECKED			
MFG. APPR.	<i>W</i>		
APPROVED	<i>W</i>		
DE APPR.			
DATE	13.06.12		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
DRAWING NO. M6061T6T			
REV. C			
SHEET 1 OF 1			
TITLE 6061-T6 TUBING			
SCALE NTS			
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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID PO37490

Purchase Order Date 8/21/2017

PO Print Date 8/21/2017

Page Number 1 of 3

Order From :

VU-TWM001

Ship To : DART AEROSPACE LTD

TW METALS
PO BOX 933014
ALTANTA, GA 31193-3014
US

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

E-MAILED
AUG 21 2017

Contact Name

Vendor Phone 585 768 5600

Ship To Contact

Ship To Phone

Ship Via: YRC COLLECT

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

USD

FOB

FCA - (Free Carrier)

Line Nbr	Reference Vendor Part Number Line Comments Delivery Comments	Description/ Mfg ID	Req Date/ Taxable Promise Date	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
1	M304TR0.500W.035	304 RD Tube .500 x .035W	8/29/2017 Yes 8/29/2017		40.00 f	\$1.50	\$60.00
MATERIAL: AISI 304/316 SA SEAMLESS ROUND TUBING AS PER ASTM A213 OR AMSE SA213 OR ASTM A269							
Line Total:							\$60.00
2	M304TR0.750W.049	304 RD Tube .750 x .049W	8/29/2017 Yes 8/29/2017		60.00 f	\$2.10	\$126.00
MATERIAL: AISI 304/316 SA SEAMLESS ROUND TUBING AS PER ASTM A213 OR AMSE SA213 OR ASTM A269							
Line Total:							\$126.00

SP 178-30

Note:



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO37490**

Purchase Order Date 8/21/2017

PO Print Date 8/21/2017

Page Number 2 of 3

Order From :

VU-TWM001

TW METALS
PO BOX 933014
ALTANTA, GA 31193-3014
US

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

Contact Name

Vendor Phone 585 768 5600

Ship To Contact

Ship To Phone

Ship Via: YRC COLLECT

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

USD

FOB

FCA - (Free Carrier)

3	M304TR0.875W.065	304 round tube .875 x .065w	8/29/2017	20.00	Yes	8/29/2017	\$4.20	\$84.00
					f			

MATERIAL: AISI 304/316 SA SEAMLESS ROUND TUBING
AS PER ASTM A213 OR AMSE SA213 OR ASTM A269

Line Total: \$84.00

4	M6061T6T0.750W.125	6061-T6 RD Tube .750 x .125W	8/29/2017	20.00	Yes	8/29/2017	\$9.20	\$184.00
					f			

MATERIAL: 6061-T6/T62/T6510/T6511 SEAMLESS TUBING
AS PER WW-T-700/6 OR QQ-A-200/8 OR QQ-A-225/8 OR
AMS 4080 OR AMS 4082 OR AMS 4083 OR ASTM B210 OR
ASTM B241

Line Total: \$184.00

Rec'd 24 ft
SPN 8-30

Note:

8/21/2017



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO37490**

Purchase Order Date 8/21/2017

PO Print Date 8/21/2017

Page Number 3 of 3

Order From :

VU-TWM001

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

TW METALS
PO BOX 933014
ALTANTA, GA 31193-3014
US

Contact Name

Vendor Phone 585 768 5600

Ship To Contact

Ship To Phone

Ship Via: YRC COLLECT

Ship Acct:

Buyer

Chantal Lavoie

Customer POID

Customer Tax # 10127-2607

Terms

Net 30

Currency

USD

FOB

FCA - (Free Carrier)

5 71401-45

PROCUREMENT
QUALITY CLAUSES

8/29/2017

1.00

\$0.00

\$0.00

No

8/29/2017

Procurement Quality Clauses

A005 right of entry

A012 chemical and physical test report

A016 personnel qualification

A017 raw material identification

A026 certification of material conformance

A041 quality management system

A042 dart notification by supplier

A043 retention of quality documents

SPN 8-30

Line Total:

\$0.00

PO Total:

\$454.00

Note: Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Change Nbr: 1

Change Date: 8/21/2017